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CLAIMS:

1. A connector assembly for connecting optical fibers comprising:

- 5 (a) a connector (10) comprising material having shape memory property, comprising a longitudinally extending body (16), said body (16) comprising a first end (18) and a second end (20), and said body (16) having a conduit (22) extending from said
10 first end (18) to said second end (20), and said body (16) comprising a plurality of finger (24) (26) projections that extend longitudinally at each of said first and second ends (18) (20);
- 15 (b) a first collar (34) circumferentially coupled to said first end (18) of said connector (10) and a second collar (36) circumferentially coupled to said second end (20) of said connector (10);
- 20 (c) a connector housing comprising four quarter portions (38), and defining a connector chamber for receiving said connector when coupled with said collars (34) (36), said quarter portions configured such that two of the quarter portions (38) when assembled comprise a first end (48) and two of the quarter portions when assembled
25 comprise a second end (50) of said connector housing and further configured to exert tractional force on the said connector (10) when said connector (10) is positioned in the connector chamber, by axial rotation of said first part end
30 (48) relative to said second end (50) of said

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connector housing, each of said connector housing ends comprising an aperture and pass through conduit between said aperture and said connector chamber; and

- 5 (d) a needle (54) capable of insertion through said aperture, pass through conduit and connector conduit, and capable of expansion of the radial diameter of said connector conduit when inserted there through.

10 2. The use of a connector assembly of claim 1, for connecting optical fibers comprising:

- 15 (a) the insertion of the needle (54) through the aperture, pass through conduit (10) and connector (22) conduit to cause a radial expansion of the diameter of the connector conduit, the opposite axial rotation of the first end (18) of the connector assembly relative to the second end 20) of the connector assembly, which by rotational action will exert a tractional force on the connector (10), sufficient to deform the connector (10) according to the elastic properties of the connector (10), render the connector to its amorphous phase by the stress induced on the connector (10) and cause longitudinal expansion of 25 the connector diameter thereby;

(b) removal of the needle (54);

- 30 (c) the passing of a first optical fiber (12) through one of said apertures, pass through conduit (22) and first end (18) of the connector and passing of a second optical fiber (14) through the aperture

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and pass through conduit(22) of said second end
and through the second end (20) of the connector
to abut the end of the first optical fiber (12);
and

- 5 (d) the opposite radial rotation of the ends of the
connector housing to relieve the tractional force
on the connector and reduce the diameter of the
connector conduit by passing from the amorphous
state to the elastic state, securing the optical
10 fibers (12) (14) and abutment of the end of one
optical fiber (12) to the other (14).